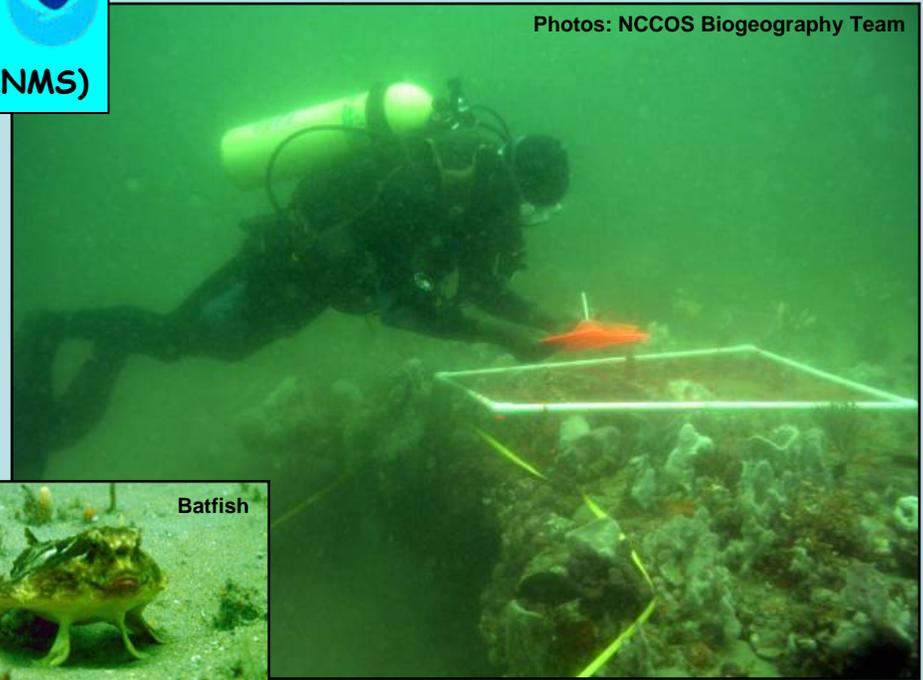


# Issue: Characterize resource to improve management

## Gray's Reef National Marine Sanctuary (GRNMS)



Photos: NCCOS Biogeography Team



Batfish

### NCCOS Program Goals & Objectives

NCCOS Strategic Goal 1.1, 1.2, 1.3

All NOAA-protected areas will have baseline assessments of ecological resources and will have integrated assessments  
NCCOS will determine the effectiveness of coastal managers' decisions in NOAA-protected areas

### Issues & Problems

NCCOS Societal Stressor 2.2, 2.3

NCCOS will determine the social, economic, and biologic effects of human activities on specific coastal ecosystems  
Coastal managers' capacities will be strengthened with the transfer of knowledge and tools from NCCOS research projects

### Research Response

NCCOS Project Title

"Grays Reef National Marine Sanctuary Habitat Mapping and Fish Habitat Utilization"

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### NMSP Management Need

Obtain baseline resource characterization to improve management

### Performance Measures

Fish species, size, and abundance, invertebrate cover, marine debris, spatial patterns

### Characterization

Compare surveys using random stratified design, fixed transects among bottom types and sanctuary regions

**Achievement of outcome:**  
Characterize the fish, benthos, and marine debris at GRNMS to support management decisions

### Adaptive Management & Research Refinement